



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX

75 Hawthorne Street
San Francisco, CA 94105

NOV 23 2015

Department of the Army
Directorate of Public Works
United States Army Garrison, Hawaii
ATTN: IMHW-PWE (L. Graham)
947 Wright Avenue
Wheeler Army Airfield
Schofield Barracks, Hawaii 96857-5013

Subject: Final Environmental Impact Statement for the Schofield Generating Station Project, United States Army Garrison, Schofield Barracks, Hawaii (CEQ# 20150297)

Dear Ms. Graham:

The U.S. Environmental Protection Agency has reviewed the Final Environmental Impact Statement for the Schofield Generating Station Project pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

The EPA reviewed the Draft Environmental Impact Statement and provided comments to the U.S. Department of the Army on June 8, 2015. We rated the DEIS as Environmental Concerns – Insufficient Information (EC-2) because we had concerns about the air quality analysis and the document did not address the issue of sustainability, as it pertains to biofuels. We recommended that the Army provide an updated air quality analysis and provide additional information on biofuels.

On August 6, 2015, Hawaiian Electric provided EPA with annotated responses to our DEIS comments. We were pleased to see the responses and proposed revisions, but noted discrepancies within the response for one item (F003b). Subsequently, we discovered that an Errata Sheet had been published that addressed these discrepancies. Per email communication dated September 3, 2015, we outlined the discrepancies and offered suggested revisions to the proposed text using red ink for new verbiage and strikethrough for deletions. Although our email communication is included in the FEIS, the red ink and strikethrough are not shown and our email is, thus, inaccurately depicted. Please see the attached original email indicating red ink and strikethrough edits, as well as the attached detailed comments that identify the remaining inaccurate statements. Please consider including the corrected statements in the Record of Decision or any other subsequent Errata sheets.

We commend the Army for its extensive interagency coordination on this project and appreciate the additional information that has been incorporated into the FEIS. We are pleased to see that the FEIS includes a discussion of Hawaiian Electric's biofuels purchasing policy, updated data from the most recent *Prevention of Significant Deterioration & Covered Source Permit Application*, and estimates for construction emissions. In response to our comments, the FEIS also includes a discussion of lifecycle

greenhouse gas emissions from biofuels and fossil fuels and provides updated information on Hawaii's new Renewable Portfolio Standards targets, as set forth under H.B. 623.

The EPA supports the U.S. Army's goals of improving energy security and increasing renewable energy generation at Army facilities. Accelerating the development of renewable resources and the deployment of clean energy technologies in Hawaii will help the state meet its energy demand, reduce dependence on imported oil, create new jobs, and provide for increased energy security, while reducing greenhouse gas emissions.

We appreciate the opportunity to review this FEIS. When the Record of Decision is signed, please send one copy to the address above (mail code: ENF-4-2). If you have any questions, please contact me at 415-972-3521, or contact Ann McPherson, the lead reviewer for this project. Ann can be reached at 415-972-3545 or mcpherson.ann@epa.gov.

Sincerely,



for Kathleen Martyn Goforth, Manager
Environmental Review Section

Enclosures: EPA's Detailed Comments
EPA's mail to Jack Shriver (Hawaiian Electric) dated September 3, 2015

U.S. EPA DETAILED COMMENTS ON THE SCHOFIELD GENERATING STATION PROJECT, FINAL ENVIRONMENTAL IMPACT STATEMENT, UNITED STATES ARMY GARRISON, SCHOFIELD BARRACKS, HAWAII, NOVEMBER 23, 2015

Section 3.4.2.1.2 Indirect Effects

Following receipt of Hawaiian Electric's responses to the U.S. Environmental Protection Agency's comments on the Draft Environmental Impact Statement, EPA provided correspondence (attached) describing inaccuracies in the proposed response. Although additional text dealing with lifecycle greenhouse gas emissions of different fuel types was added to Section 3.4.2.1.2 (pg. 3-36), we suggest further revisions to this block of text, as noted below, in order to correct inaccuracies.

We note that the previous comparison (reference to 26 percent) is no longer valid. The maximum lifecycle GHG emissions for any biopower scenario is 360 grams CO₂e/kWh, as shown in Table 3.4-10. The maximum lifecycle GHG emissions for any biopower scenario exceeds the minimum lifecycle GHG emissions for any fossil fuel scenario (correctly noted as 290 grams CO₂e/kWh).

Please consider including the suggested revisions below in the Record of Decision or any other subsequent Errata sheets.

Suggested Revisions shown in strikethrough, bold and underlined below:

~~The maximum lifecycle GHG emissions for any biopower scenario is 75 grams CO₂e/kWh; whereas the minimum lifecycle GHG emissions for any fossil fuel scenario is 290 grams CO₂e/kWh. Therefore, regardless of the exact source and type of biofuel ultimately used, the total lifecycle GHG emissions would be no more than 26 percent of those generated by fossil fuels for the same amount of electricity. The use of biofuels under the Proposed Action would likely have a net benefit to the environment when compared to using fossil fuels under the No Action Alternative. This is representative of all biofuels and all biopower processing and transportation scenarios. The effects would be moderately beneficial.~~

Table 3.4-9

Please verify the SO₂ values that are inconsistently presented. SO₂ values in Table 3.4-9 range from 9.4, 10.1, and 9.7 tons/year for three different fuel scenarios (pg. 3-35). In Table 3.4-7, however, SO₂ values are consistently depicted as 9.4 tons/year for the same three scenarios (pg. 3-31). We are unsure whether the SO₂ values in Table 3.4-9 are correct as is, or if they should be revised to match Table 3.4-7.

Table 3.4-6

Please consider updating the Table 3.4-6 (pg. 3-31) Footnote b to read, "Net based on lifecycle analysis including non-biogenic CO₂e, as reflected in Table 3.4-9."

McPherson, Ann

From: McPherson, Ann
Sent: Thursday, September 03, 2015 2:48 PM
To: 'jack.shriver@hawaiianelectric.com'
Cc: 'alex.j.roy@hawaii.gov'; 'kathleen.k.ahsing.civ@mail.mil'; 'stefanie.a.gardin.civ@mail.mil'; Goforth, Kathleen; 'lisa.m.graham52.civ@mail.mil'; 'Heath, Garvin'
Subject: Hawaiian Electric's Response to EPA's comments on the Draft EIS for the Schofield Generating Station Project

Dear Mr. Shriver,

Thank you for responding to EPA's comments on the Draft Environmental Impact Statement for the Schofield Generating Station Project in your letter dated August 6, 2015. We appreciate the opportunity to see how our comments will be addressed and to offer additional feedback before the publication of the Final EIS.

There is one item, F003b, on page 2 of your letter that we are concerned about. The letter states that additional text has been added to Section 3.4.2.1.2.5, Indirect Effects, of the Final EIS, including Table 3.4-9. We note, however, that two of the values listed for Biofuels, as presented in Table 3.4-9, are incorrect. These values come from Table A.II.4 of Annex II. However, there was an errata sheet published which affects Table A.II.4. (See errata for pg. 982: <http://srren.ipcc-wg3.de/report/errata>). The correct values are located at the following website: http://srren.ipcc-wg3.de/report/ipcc_wg3_srren_annexii_tableaii.4_errata.pdf. Due to these changes, the proposed text that compares maximum and minimum lifecycle GHG emissions is thus, incorrect, and should be revised.

Also, the lifecycle GHG emission estimates presented in Table A.II.4 include all "indirect" effects such as transportation, storage and processing. The estimates do not, however, account for any additional emissions associated with transportation to and from Hawaii. The first sentence of the suggested paragraph is similar to one used in the Draft EIS in conjunction with Table 3.4-8 (pg. 3-34). If used in conjunction with Table 3.4.9, the text should be revised.

We have consulted with Garvin Heath, PhD, one of the NREL scientists that worked on the IPCC document. He can provide additional input if needed (garvin.heath@nrel.gov; 303-384-7460).

Informally, we suggest the following revisions to the proposed text in Section 3.4.2.1.2.5:

GHG emissions outlined in Table 3.4.9 **account for basic transportation, storage, and processing but do not account for additional increases associated with from transportation to and from Hawaii, storage, and processing or other indirect sources of GHGs, and as such may be higher than those shown.** The IPCC Special Report on Renewable Energy Sources and Climate Change indicates that lifecycle GHG emissions from all first- and next-generation biofuels have lower lifecycle GHG emissions compared to fossil fuels (IPCC 2012). Table 3.4-9 shows overall ranges of lifecycle GHG emissions from biofuels, natural gas, and oil/diesel. The median lifecycle GHG emissions of all biofuels are between **432 450 and 964** ~~nearly 1000~~ grams CO₂e/kWh lower than their fossil-fueled counterparts. ~~The maximum lifecycle GHG emissions for any biopower scenario is 75 grams CO₂e/kWh; whereas the minimum lifecycle GHG emissions for any fossil fuel scenario is 290 grams CO₂e/kWh. Therefore, regardless of the exact source of and type of biofuel ultimately used, the total lifecycle GHG emissions would be no more than 26 percent of those generated by fossil fuels for the same amount of electricity. The use of biofuels under the Proposed Action would likely have a net benefit to the environment when compared to using fossil fuels under the No Action Alternative. This is representative of all biofuels and all biopower processing and transportation scenarios. These effects would be moderately beneficial.~~

Table 3.4-9 Lifecycle GHG Emissions from Biofuels and Fossil Fuels
Values Lifecycle GHG Emissions (grams CO₂eq/kWh)
 Biofuels Natural gas Oil/Diesel Fuel Coal

Minimum	-633	290	510	675
50 th %	18 37	469	840	1001
Maximum	75 360	930	1170	1689

Source IPCC 2012

Negative estimates for biopower are based on assumptions about avoided emissions from residues and wastes in landfill disposals and co-products.

We appreciate the opportunity to provide further feedback. Please contact me if you have any additional questions or would like to discuss this further.

Regards,

Ann McPherson

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